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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,620	02/25/2000	Harlan Sexton	50277-403	7349

7590 01/21/2004

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EXAMINER

VO, LILIAN

ART UNIT PAPER NUMBER

2127

DATE MAILED: 01/21/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/512,620

Applicant(s)

SEXTON ET AL.

Examiner

Lilian Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. In view of the appeal brief filed on September 10, 2003, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

2. Claims 1 – 16 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 – 5, 7 – 13 and 15 - 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiney et al. (US 6,401,109 B1, hereafter referred to Heiney) in view of Li (US 6,519,594 B1).

Regarding **claims 1 – 3 and 9 - 11**, Heiney discloses a method for serving requests received by a server in a multiple-user environment, the method comprising the steps of:

establishing a first session between said server and a first user (fig. 11);

establishing a second session between said server and a second user (fig. 11);

responding to requests that are received by said server in said first session by executing virtual machine code using a first virtual machine instance (fig. 11); and

responding to requests that are received by said server in said second session by executing virtual machine code using a second virtual machine instance (fig. 11);

wherein said first virtual machine instance and said second virtual machine instance are distinct instances of a same type of virtual machine (fig. 7, 11, col. 8, lines 4 – 36, col. 9, lines 5 - 38);

wherein said first virtual machine instance exists within said server concurrently with said second virtual machine instance (fig. 7 and 11, col. 8, lines 4 – 36, col. 9, lines 5 - 38).

Heiney however did not clearly mention that the virtual machine instances share access to data stored in a shared state area allocated in volatile memory associated with the server. Li discloses of different virtual machines having access to shared memory pool and the sharing of Java classes from the shared memory pool between virtual machine instances in col. 3, lines 20 – 35, col. 10, lines 26 – 50 and fig. 7. Therefore, it would have been obvious for one having an ordinary skill in the art at the time the invention was made, to include Li's teaching to Heiney's

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system to share common Java classes between virtual machines to reduce memory resource overhead required when operating multiple Java Virtual Machines (JVMs) and allow multiple JVM platform to be operable on an embedded computer system (abstract).

Regarding **claims 4 and 12**, Heiney did not clearly show the additional limitation as claimed. Nevertheless, Li discloses the step of plurality of virtual machine instances share read-only access to the data stored in the shared state area allocated in volatile memory within the server (col. 8, line 56 – col. 9, line 15 and col. 10, lines 26 - 50). Therefore, it would have been obvious for one having an ordinary skill in the art at the time the invention was made, to include Li's teaching to Heiney's system to share common Java classes between virtual machines to reduce memory resource overhead required when operating multiple Java Virtual Machines (JVMs) and to provide protection and prevent modification to shared data.

Regarding **claims 5 and 13**, Li discloses of shared state area stores data associated with an object class in fig. 7 and col. 8, line 56 – col. 9, line 15 and col. 10, lines 26 – 50. However, Heiney and Li did not clearly show the additional limitations as claimed. The Examiner takes an "Official Notice" that both the concept and advantages of providing for each virtual machine has to have each own session-specific memory that stores a value for a static variable associated with object class is well known and expected in the art. It would have been obvious to one having an ordinary skill in the art to store each virtual machine instance session-specific memory a value for a static variable associated with the object class to the combined teachings of Heiney and Li because that would retain the same data for each virtual machine after it is created until the call memory is terminated.

Regarding **claims 7 and 15**, Heiney discloses the step of responding to a call associated with a particular session with the server by scheduling, for execution in a system thread, the particular virtual machine instance associated with the particular session (col. 2, lines 1 – 17, col. 8, lines 4 – 36 and figs. 7 and 11).

Regarding **claims 8 and 16**, Heiney discloses the step of spawning off a first copy of the Java virtual machine to create a second Java process object and the communication between the two Java process objects are using the same connection (e.g. col. 1, line 50 – col. 2, line 17). Heiney however, did not teach the steps of storing a pointer within said data structure to provide access to the data stored in the shared state area. Li teaches of JVMs sharing access of the Java classes from the shared memory pool (col. 3, lines 20 – 35 and fig. 7) and that each JVM machine has a pointer after it's been created (col. 14, lines 1 –15). Therefore, it would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to combine the teaching of Li to Heiney to share access to Java classes in the common memory pool to save memory resource for other usages.

5. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiney et al. (US 6,401,109 B1, hereafter referred to Heiney) in view of Li (US 6,519,594 B1) and further in view of Miner et al (US 6,047,053, hereafter referred to Miner).

Regarding **claims 6 and 14**, the combined references of Heiney and Li did not clearly show the additional limitation as claimed. Nevertheless, Miner teaches of the virtual machine allocates and deallocates sessions for incoming calls (col. 22, lines 40-58), which inherently allocating and deallocating a memory slot for each call that is associated with the particular

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session. Therefore, it would have been obvious for one of an ordinary skill in the art, at the time the invention was made, to incorporate Miner's teaching to the combined teachings of Heiney and Li so that unused memory resource can be utilized more efficient.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,324,177 B1, US 5,920,720, US 6,609,153 B1, and US 5,745,703.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Lilian Vo
Examiner
Art Unit 2127

lv
December 31, 2003


MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
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